

ABSTRACT OF THE DISCLOSURE:

The present invention relates to the cloning of the gene of a thermophilic DNA ligase, from *Thermus aquaticus* strain HB8, and the use of this ligase in assays for the detection of specific sequences of nucleotides in a variety of nucleic acid samples, and more particularly in those samples containing a DNA sequence characterized by a difference in the nucleic acid sequence from a standard sequence including single nucleic acid base pair changes, deletions, insertions or translocations.